



REQUEST FOR INFORMATION

OFFSHORE WIND ENERGY MET TOWER

KEY INFORMATION SUMMARY SHEET

RFI Reference Number: DEXR440003

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RFI Issuing Office: Maryland Energy Administration

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Response Due Date: May 7, 2014

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DISCLAIMER

This Request for Information (RFI) is issued solely for information and planning purposes, and does not constitute a solicitation or procurement by the Maryland Energy Administration (MEA) or the State of Maryland. Responses to this RFI are not offers and cannot be accepted by MEA, or the State of Maryland, to form a binding contract. Respondents are solely responsible for all expenses associated with responding to this RFI. Responses to this RFI will not be returned. Responses to this RFI are subject to Public Information Act (PIA), Title 10, Subtitle 6, Part III of the State Government Article, Annotated Code of Maryland.

Respondents are responsible for clearly identifying those portions of their response that they consider confidential, proprietary commercial information or trade secrets, and for providing justification to MEA why such materials, upon request, should not be disclosed under the PIA.

1. PURPOSE

The Maryland Energy Administration (MEA) is issuing this RFI to gather information from stakeholders and potentially interested contractors regarding the design, manufacture and ultimate deployment of an offshore meteorological (met) tower. MEA is considering supporting the deployment of a met tower on the Outer Continental Shelf (OCS), off the coast of Maryland to gather wind resource, atmospheric and other data. MEA, in its effort to support the development of offshore wind energy, is seeking information regarding technology, deployment methods, scientific benefits and capability of industry to respond to this need.

2. BACKGROUND

Maryland Offshore Wind Energy Act of 2013

In April of 2013, Governor O'Malley signed into law the Maryland Offshore Wind Energy Act. This law creates a mechanism to incentivize the development of up to 500 megawatts (MW) of offshore wind capacity, at least ten nautical miles off of Maryland's coast. A target project size of 200 MW would require the installation an estimated 40 turbines off the coast of Ocean City. However, because offshore wind projects in such areas have yet to be developed, there are financial, technical, and legal hurdles potential developers must overcome.

BOEM Leasing Process

Under the U.S. Energy Policy Act of 2005, the U.S. Department of Interior has jurisdiction over the siting and permitting of renewable energy projects on the OCS. Pursuant to 30 CFR Part 585, Dept. of Interior's Bureau of Ocean Energy Management (BOEM) works with coastal State governments through official intergovernmental task forces to define areas suitable for offshore wind energy development. The Maryland task force engaged in extensive consultation and coordination resulting in the issuance by BOEM of a Proposed Sale Notice for the Maryland Wind Energy Area (WEA) on December 17, 2013.

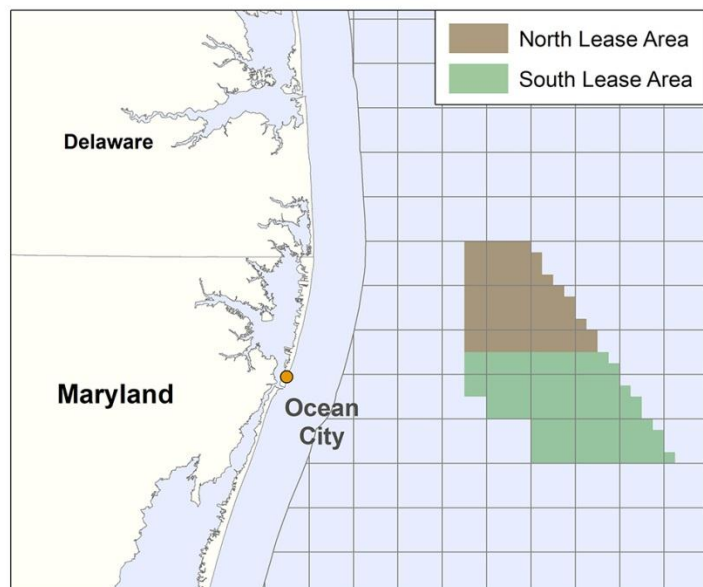


Figure 1 - Maryland Wind Energy Area

The proposed area contains 9 whole OCS blocks and 11 partial blocks. The entire area is approximately 94.04 square nautical miles or 79,706 acres. For leasing purposes, BOEM has further divided the area into two Lease Areas, north and south. These areas will be leased separately but concurrently. MEA analysis indicates that the entire area can likely support deployment of up to 1,000 MW. However, site-specific and project-specific mitigation requirements or other issues may ultimately limit development further. Further information on Task Force deliberations or documents can be found at <http://www.boem.gov/Maryland/>

Maryland's Resource Characterization Activities

MEA manages an Offshore Wind Development Fund to support resource characterization activities as well as targeted investment in economic development opportunities.

Under contract with MEA, Coastal Planning & Engineering conducted a high-resolution geophysical survey of the Maryland WEA during the summer of 2013. This effort used side scan sonar, multi-beam bathymetry, seismic sub-surface imaging and magnetometry to map the sea floor and subsea geology of the WEA as well as benthic habitat, potential paleo-cultural resources, unexploded ordnance and potential geological hazards. This information will be critical to planning project layout and foundation design. Line spacing and survey resolution are sufficient to meet BOEM evaluation standards for a Construction and Operations Plan (COP) for all technologies except magnetometry. Additionally, geophysical survey data was collected along a 1,000' buffer area, to account for any scour or sediment transport effect resulting from construction activities within the WEA.

In partnership with the Maryland Department of Natural Resources, MEA is supporting a comprehensive suite of ecological surveys to provide reliable ecological baseline data. These surveys are intended to gather reliable data on the presence, abundance and distribution of fish, birds, sea turtles and marine mammals in and around the WEA. Using boats, airplanes, towfish, wave gliders, and anchored platforms, researchers are deploying several remote sensing technologies, including high definition video, sonar, and passive acoustic monitoring. MEA and DNR have engaged several partners in these efforts, including the U.S. Department of Energy, BOEM, Biodiversity Research Institute, University of Delaware, Virginia Aquarium & Marine Science Center, University of Maryland Eastern Shore, The Nature Conservancy, and other stakeholder groups.

MEA is also working with the University of Maryland Baltimore County (UMBC) to use both scanning and Doppler LIDAR to better understand the atmospheric resource in the WEA and adjacent areas. LIDAR was deployed on the geophysical survey vessel that scanned the WEA during the summer of 2013. Researchers at UMBC are analyzing this data as well as historic atmospheric resource data from NOAA buoys, National Weather Service, satellite sea state measurements, and other meso-scale model data to assemble a forward model of anticipated wind resource in the WEA. Ultimately, floating LIDAR technology may be deployed on a

longer term basis. However, MEA continues to focus on traditional anemometry from fixed structures as the most financeable data platform.

Meteorological Tower(s)

Since the inception of the modern wind industry, the primary method of assessing wind resources has been the deployment of mechanical anemometers on an elevated structure, typically a purpose-built temporary or permanent tower. Similarly, in the offshore wind sector, where capital investments are generally higher, met towers have been deployed to capture hub-height wind resource data. These towers have ranged from simple steel masts to large tower structures with helipads and instrumented with a variety of sophisticated sensors to collect a wide variety of resource data types.

MEA seeks information from industry to assist in making critical decisions whether to advance a met tower program, and if so, in what fashion. Therefore, MEA seeks informational responses from key stakeholders in this Request for Information.

3. QUESTIONS TO RESPONDERS

MEA seeks input from stakeholders who can provide valuable information regarding offshore met tower deployment, including:

- Developers of offshore wind energy projects;
- Firms that have experience designing, manufacturing or installing met towers;
- Finance groups who have expertise in project finance data requirements;
- State, local and national government agencies who have experience in this area;
- Non-governmental organizations and academic institutions with experience or interest in this area;
- Certification bodies who can offer guidance on design, manufacturing or deployment standards; and
- Any other persons or groups that have experience working with met towers, or have important information that should be considered prior to planning met tower deployment.

MEA is contemplating issuing an RFP for deployment of an offshore met tower. In order to meet this objective, MEA is soliciting feedback on the following questions:

1. Should MEA move forward with plans to deploy a met tower to support development of offshore wind energy in the Maryland WEA? Why or why not?

2. If MEA has funds available to support deployment of an offshore met tower, should MEA plan to initiate such a project as a direct state procurement, or should MEA implement a grant program to assist a developer with installation of a met tower, and why?
3. MEA is considering applying to BOEM to lease one or more single aliquots adjacent to the Maryland WEA. Do you feel that a research lease is the appropriate regulatory mechanism for deployment of an MEA-funded met tower? Why or why not?
4. What is the ideal location for deployment of a met tower to support development in the following areas, and why?
 - a. The North Lease Area of the Maryland WEA
 - b. The South Lease Area of the Maryland WEA
 - c. Both the North and South Lease Areas of the Maryland WEA
 - d. Both the Maryland WEA and an adjacent WEA
5. How large of an area around a met tower does a met tower provide financeable data for? What atmospheric or oceanographic factors affect this determination?
6. Given the available information about the geological, oceanographic and atmospheric physical environment of the Maryland WEA, what general design characteristics do you think would be optimal for assessing wind resource in the Maryland WEA?
7. What types of met tower have historically been deployed in support of offshore wind project development?
8. What is your expectation of future trends in met tower design and deployment?
9. What atmospheric resource assessment certification standards do you feel are necessary to support project finance of an offshore wind energy project in the Maryland WEA?
10. What technologies are you aware of that do not currently meet the certification standards referenced in question 9, above, that you feel will soon achieve those certifications?
11. What do you think is the most cost-effective met tower solution that meets the certification standards referenced in question 9, above?
12. How long is it necessary for a met tower to gather sufficient data to meet project finance requirements for development of an offshore wind project in the Maryland WEA?

13. What types of instrumentation would you advise deploying on a met tower to gather additional information in support of offshore wind project development?
14. What are the power requirements for the operation of a met tower, and how would that power be delivered?
15. What steps would you take to ensure instrumentation reliability in the volatile offshore environment?
16. What types of geophysical or geotechnical data are necessary to optimize foundation design and installation methods?
17. What types of vessel(s) are necessary to install the type of met tower that would support offshore wind project development in the Maryland WEA?
18. Do you feel that equipping an offshore met tower with a helipad is a cost-effective and safe means of transporting personnel to and from the tower?
19. How tall do you think an offshore met tower needs to be to support offshore wind project development in the Maryland WEA?
20. What potential additional uses of met tower data are you aware of, besides supporting offshore wind project development in the Maryland WEA?
21. Are you aware of additional potential funding sources to assist MEA with the deployment of a met tower?
22. What protocols and steps are necessary to ensure maritime safety and navigation during the installation and operation of an offshore met tower?
23. What Maryland businesses have experience and/or capabilities to design, manufacture, deploy, or provide logistical support for installation of an offshore met tower? If you represent such a firm, please provide a detailed description of such experience and/or capabilities?
24. Please provide any additional information you feel it is important for MEA to be aware of as it considers options for met tower deployment in support of offshore wind project development in the Maryland WEA.

4. RFI RESPONSE FORMAT

Please submit responses via e-mail in the form of a PDF. Be sure to include, in any response, an outline that addresses the questions in Section 3 of this document, along with any additional information that may be helpful to the state in development of a RFP.

5. QUESTIONS AND INQUIRIES

MEA will not be taking questions regarding this RFI by phone, e-mail, or in person. If respondents wish to submit follow-up questions to MEA about opportunities related to this RFI, they may do so in their response when submitting answers to the RFI questions. MEA will, at the appropriate time, address those questions, in aggregate, in a manner that will maintain the anonymity of the installer.